



Amendments to the Drawings:

Formal drawings are submitted herewith under Separate Letter to the Draftsperson. For the convenience of the Examiner, a copy of the formal drawings are also attached with this amendment.

Attachment: Replacement Figures 1-5

REMARKS

Status of the Claims:

The Office Action dated January 5, 2006 has been received and reviewed by the applicant. Claims 1-7 are in the application. Claims 1-7 stand rejected. Claims 8-18 are cancelled and claims 19-23 are new.

Claim Rejection - 35 USC § 112

Claim 4 stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 is amended to overcome the rejection. A depletion layer is formed in a device at the junction of opposite polarity dopants. A voltage applied across the junction may increase or decrease the size of the depletion layer, depending upon the direction of the electric field established by the voltage.

Claim Rejection - 35 USC § 102

Claims 1-7 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Publication No. 2001/0017382 to Rhodes et al. (cited by applicant).

The Invention is Patentable

The invention is not shown or suggested by the applied art of record. Claim 1 as amended defines forming on a substrate a first layer (epitaxial layer, claim 5, as amended) of a first polarity and a first well of the same polarity in the first layer. The oxide layer is over both the first layer and the first well, is on the first well and has an opening that exposes portions of the first well.

The reference 2001/0017382 (hereinafter "Rhodes") does not have the claimed features of substrate/layer/well/oxide with opening over well. As construed in the rejection, the "first well 112" is not a layer of a first polarity. In the alternative, if layer 112 is re-construed to be the first layer of the claims, then Rhodes lacks a first well that is exposed by an opening in the oxide layer 120. Note that p-regions 140 are not exposed by the opening in oxide 140.

Claims 4 and 22 are patentable over the applied art of record. Rhodes fails to show or suggest forming a depletion region such that a substantial portion of a depletion region that results does not extend to the first oxide layer.

Rhodes does not show or suggest the economical process provided by the invention. Rhodes paragraph [0043] describes how the n⁺ region is spaced from the edge of the oxide and also requires the p-regions 140 be similarly spaced

in the opposite direction. Rhodes thus patterns both the p-regions 140 and the n+ regions 130 in order to achieve the desired result.

In contrast, the invention provides a p-well 420 that needs no special patterning of first well. Thus, the invention has at least one less patterning or aligning step. In Rhodes the p-wells 140 are spaced inside the oxide layer. Some patterning or aligning step must be provided to space the p-wells below and away from the edges of the oxide regions. By omitting such p-well patterning or aligning, the invention demonstrates an indicia of non-obviousness by saving one or more steps.

Regarding claim 5, Rhodes fails to show or suggest forming an epitaxial layer on a substrate.


Claims 19-23 are new. Claim 19 defines the invention in terms of the starting substrate which is heavily doped with dopant of a first polarity, the same polarity as the epitaxial layer and the first well. Rhodes is silent about the level of doping of its substrate.

Summary

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

For the reasons set forth above, it is believed that the application is in condition for allowance. Accordingly, reconsideration and favorable action are respectfully solicited.

Respectfully submitted,


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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.